

We Claim:

1. A nickel-metal hydride electrochemical cell, comprising:  
a positive electrode including a nickel-hydroxide active  
material;

5 a negative electrode including a hydrogen storage alloy  
active material;

a separator electrical insulating said positive  
electrode from said negative electrode, said separator  
having a hi-pot resistance greater than 400 volts, and an  
10 ionic resistance less than 15 ohm-cm; and

an alkaline electrolyte.

2. The electrochemical cell of claim 1, wherein said  
separator has an absorbency between 30% and 50% relative to  
15 said alkaline electrolyte at 100 psi.

3. The electrochemical cell of claim 1, wherein said  
separator has an absorbency between 35% and 48% relative to  
said alkaline electrolyte at 100 psi.

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4. The electrochemical cell of claim 1, wherein said  
separator has an absorbency between 38% and 46% relative to  
said alkaline electrolyte at 100 psi.

25 5. The electrochemical cell of claim 1, wherein said  
separator has a hi-pot resistance greater than 500 volts.

6. The electrochemical cell of claim 1, wherein said separator has an ionic resistance less than 12 ohms-cm.

7. The electrochemical cell of claim 1, wherein said 5 separator has an ionic resistance less than 10 ohm-cm.

8. The electrochemical cell of claim 1, wherein said alkaline electrolyte is an aqueous solution of an alkali metal hydroxide.

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9. The electrochemical cell of claim 8, wherein said alkali metal hydroxide comprises potassium hydroxide, lithium hydroxide or sodium hydroxide.